

CLAIMS

I claim:

1. A composite refractory article consisting of
 - a) a refractory core composed of ceramic materials, and
 - b) a means for conducting an electric current on the surface of said refractory core.
2. The composite refractory article in claim 1 wherein said refractory core is essentially composed of ceramic oxides.
3. The composite refractory article in claim 1 wherein said refractory core is essentially composed of metal carbides.
4. The composite refractory article in claim 1 wherein said refractory core is essentially composed of a combination of ceramic oxides, metal carbides and elemental carbon.
5. The composite refractory article in claim 4 wherein said elemental carbon is in the form of graphite or carbon black.
6. The composite refractory article in claim 1 wherein the said means of conducting an electric current on the surface of the core is an electrically conductive coating.
7. The composite refractory article in claim 6 wherein the said electrically conductive coating is essentially composed of elemental carbon.
8. The composite refractory article in claim 7 wherein the said elemental carbon is in the form of graphite or carbon black.
9. The composite refractory article in claim 6 wherein the said electrically conductive coating is bonded to the said refractory core at temperatures less than 950 degrees Fahrenheit.
10. The composite refractory article in claim 6 wherein the said electrically conductive coating is capable of making an electrical contact with a separate electrically charged element in the system.
11. A composite refractory stopper used to control the flow of molten metal consisting of
 - a) a refractory core composed of ceramic materials, and

b) a means for conducting an electric current on the surface of said refractory core.

12. The composite refractory stopper in claim 11 wherein said refractory core is essentially composed of ceramic oxides.
13. The composite refractory stopper in claim 11 wherein said refractory core is essentially composed of metal carbides.
14. The composite refractory stopper in claim 11 wherein said refractory core is essentially composed of a combination of ceramic oxides, metal carbides and elemental carbon.
15. The composite refractory stopper in claim 14 wherein said elemental carbon is in the form of graphite or carbon black.
16. The composite refractory stopper in claim 11 wherein the said means of conducting an electric current on the surface of the core is an electrically conductive coating.
17. The composite refractory stopper in claim 16 wherein the said electrically conductive coating is essentially composed of elemental carbon.
18. The composite refractory stopper in claim 17 wherein the said elemental carbon is in the form of graphite or carbon black.
19. The composite refractory stopper in claim 16 wherein the said electrically conductive coating is bonded to the said refractory core at temperatures less than 950 degrees Fahrenheit.
20. The composite refractory stopper in claim 16 wherein the said electrically conductive coating is capable of making an electrical contact with a separate electrically charged element in the system.